

**APPENDIX B**

**HEALTH AND SAFETY PLAN**

# HEALTH & SAFETY PLAN

GLADE ROAD FACILITY  
PASCO, WASHINGTON

Prepared for  
Western Farm Service  
January 8, 2004

Prepared by  
Maul Foster & Alongi, Inc.  
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Project 0030.01.02

**Health and Safety Plan  
Glade Road Facility  
Pasco, Washington**

The material and data in this Health and Safety Plan were prepared under the supervision and direction of the undersigned.

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Mike Staton  
Project Manager,  
SLR International Corp.

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Elisabeth Silver  
Health and Safety Coordinator,  
Maul Foster & Alongi, Inc.

## SITE SAFETY AND OPERATIONS PLAN

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# SITE HEALTH AND SAFETY PLAN

**Site:** Glade Road Facility **Project no.:** 0030.01.02  
**Location:** 3482 Glade Road **Date:** January 8, 2004  
Pasco, Washington **Prepared by:** Elisabeth Silver  
**Reviewed by:** Mike Staton

**Client contact:** Brian Miller, Western Farm Service

**Project objectives:** To remediate the dinoseb-impacted soil that is in contact with groundwater, to eliminate storm water infiltration through impacted soils, to prevent direct contact with shallow impacted soils, and to monitor the natural attenuation of the nitrate and dinoseb in groundwater.

**Scheduled activities and time period:** In May or June 2004, two off-site groundwater monitoring wells will be installed. In August and September 2004, the dinoseb-impacted soil at the former wash-pad will be excavated, and the other designated areas of contaminated soil will be capped with asphalt. From August 2004 through at least 2009, groundwater samples will be collected from selected wells on a quarterly to annual basis.

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## Purpose

This health and safety plan (HASP) has been prepared to instruct Maul Foster & Alongi, Inc. (MFA) personnel involved with remedial actions at the Glade Road facility in Pasco, Washington. The purpose of this plan is to provide work procedures to minimize the risk of chemical exposure or physical injuries during these activities. It is the responsibility of the MFA Project Manager to assure all aspects of this HASP are implemented. All MFA employees and their subcontractors who will be working on site are required to read and understand this HASP.

MFA subcontractors are advised that the requirements of this plan will apply to all operations conducted within the exclusion zone. Subcontractors shall develop their own plan using the provisions of this plan as minimum requirements. Subcontractors are advised that this field project may result in exposure to chemical and physical hazards. A combination of personal protective equipment, engineering controls, and safe work practices will be used to minimize exposure. All MFA personnel entering the exclusion zone must sign the attached consent agreement, acknowledging that they have read and understood the safety plan and will abide by it.

It is important for the MFA on-site geologist or engineer to keep all pedestrians a safe distance

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from the exclusion zone.

**Hospitals/emergency medical center (address/phone no.) Map attached**

☒ Yes      ☐ No

1. Our Lady of Lourdes Health Center - 520 N. 4<sup>th</sup> Ave. Pasco. Phone number is (509) 547-7704 or 911.

**Route to Hospital:**

### To Our Lady of Lourdes Health Center

1. Turn left from southwest gate onto Glade Road North.
2. Travel southeast on Glade Road North; it will become North 4<sup>th</sup> Avenue/Glade Road North.
3. North 4<sup>th</sup> Avenue/Glade Road North will turn into North 4<sup>th</sup> Ave. Continue on North 4<sup>th</sup> Ave.
4. Hospital will be on the right side of the street (at intersection with West Clark Street).

Hospital is 4.1 miles from the site.

**Refer to Figure 1**

**Emergency transportation (fire, ambulance, police):**

Call 911

### Background Review

**Access, overhead/underground utilities, etc.:** no access restrictions.

**Waste characterization:** Dinoseb in soil; dinoseb and nitrate in groundwater.

**Hazard/safety level determination:** Level D and possible upgrade to Modified Level D (see below)

**Comments:** \_\_\_\_\_

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### Waste Type(s)/Characteristics

**Liquid** Decon, development, and purge water ☒

**Solid** Soil cuttings, excavated soil, and concrete ☒

**Sludge** No ☒ **Ignitable** No ☒ **Volatile** No ☒

### Facility Description

**Size:** 20 acres **Buildings and structures:** Western Farm Service buildings and structures (2 office buildings, 5 chemical/fertilizer storage warehouses, an equipment repair shop, and over 20 above-ground chemical, fertilizer, or rinse water storage tanks), roads, and fences.

**Topography and access:** Slopes gently downward to the south and west.

### Temporary Storage of Wastes:

**Well development, decon and purge water:** Well development, decon, and purge water will be placed in 55-gallon drums, with lids bolted securely, and stored on site. Drums will be labeled with waste generation location (Example: Purge Water MW-1), media type, and date. MFA will assist Western Farm Service with coordinating disposal of the generated water.

**Drill cuttings and excavated soil:** Drill cuttings will be placed in 55-gallon drums, with lids bolted securely, and stored on site. Drums will be labeled with waste generation location, media type, and date. The excavated soil will be temporarily stockpiled near the excavation. The stockpiles will be placed on and covered with plastic sheeting. MFA will assist Western Farm Service with coordinating disposal of the drill cuttings and the impacted soil excavated from depths of approximately 25 to 29 feet bgs.

**Status (active, closed, unknown):** The site is active.

**History:** The results of an ongoing site investigation showed that the contaminants of concern (COCs) in soil in different areas of the site include dieldrin, disulfoton, heptachlor, toxaphene, 2,4-D, dinoseb, dicamba, and TPH as gasoline. The COCs for groundwater are nitrate and dinoseb.

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### CHEMICAL HAZARD EVALUATION

**Potentially hazardous chemicals known or suspected to be onsite:**

Chemical of Concern	Concentration	Medium	OSHA PEL	OSHA STEL	OSHA IDLH	Odor Threshold	LEL (%)	IP(eV)	Other Hazard
Nitrate	109,000 µg/L	water	NA	NA	NA	NA	NA	NA	F, P, R, E
	5,250 µg/kg	soil							
Dinoseb	81.8 µg/L	water	NA	NA	NA	NA	NA	NA	P
	10,100 µg/kg	soil							

Notes:	--	- none established	NA	- not available
	C	- carcinogen	P	- poison
	GW	- groundwater	PCB	- polychlorinated biphenyl
	IDLH	- immediately dangerous to life and health	PEL	- permissible exposure level
	IP (eV)	- ionization potential	SC	- suspected carcinogen
	N/A	- not applicable	STEL	- short-term exposure level
	F	- flammable	R	- Reactive
	COR	- Corrosive	E	- Explosivity

### PHYSICAL HAZARD EVALUATION

<b>Noise levels &gt; 85 dB</b> Wear ear protection	<b>Drilling hazards</b>  (see attached MFA Drilling SOP)	<b>Excavation hazards</b>  (see attached MFA Excavation SOP)	<b>Moving equipment</b>  Be alert for vehicles. Surround well area with cones and vehicle.
<b>Unstable surface</b>	<b>Slips/Trips</b>	<b>Fall hazards</b>	<b>High temperatures</b>
<b>Low temperatures</b>	<b>Repetitive motion activities (soft tissue)</b>	<b>High particulate levels</b>	<b>Sharp objects (needles, glass, etc.)</b>
<b>Silica dust</b>	<b>Falling objects</b>	<b>Flying objects</b>	<b>Heavy lifting</b>

### Physical Hazards Description

**Trips/Falls.** As with all work sites, caution will be exercised to prevent slips on wet surfaces. Caution should be exercised when carrying equipment.

**Vehicular traffic:** Restrict access to work areas with vehicles, traffic cones or barriers, or barrier tape. Be alert for inattentive drivers at operating job sites. Wear high-visibility orange safety vests, when appropriate.

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### OPERATIONS PLAN

**Zones of contamination:**      ☒ Known      ☐ Projected      ☐ Unknown

**Sampling method:** Soil sampling using split-spoon samplers (soil borings) and decontaminated spoons (excavator bucket). Groundwater sampling using disposable PVC bailers.

### SAFETY EQUIPMENT AND PROCEDURES

Based on the hazards identified above, the following personal protective equipment will be required for the following site activities (specify both an initial level of protection and a more protective level of protection in the event conditions should change):

Task Description	Level	Level if Upgrade
Site inspection	D	MD or leave site
Soil excavation and capping	D	MD or leave site
Monitoring well installation	D	MD or leave site
Groundwater sampling	D	MD or leave site
Sample handling	D	MD

Each level of protection will incorporate the following equipment (specify type of coveralls, boots, gloves, respiratory cartridges or other protection, safety glasses, hard hat, and hearing protection):

<b>Level D:</b>	Steel-toed work boots, work clothes or coveralls (long-sleeved), hard hat, safety glasses, nitrile gloves
<b>Modified D:</b>	Same as Level D with addition of Tyvek <sup>®</sup> , coated Tyvek <sup>®</sup> or rain gear and chemical-resistant, steel-toed boots
<b>Level C:</b>	Same as Level D Modified with addition of respirator

**Note: Project personnel are not permitted to deviate from the specified levels of protection without the prior approval of the site safety officer or project manager.**



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### TOXICITY ACTION LEVELS

The toxicity action levels given below (**SAFETY/HEALTH EQUIPMENT CHECKOUT LIST**, on page 8) are set to comply with Occupational Safety and Health Administration (OSHA) Permissible Exposure Levels and ACGIH Threshold Limit Values (TLVs), and NIOSH recommendations for the chemicals which may be encountered on the site.

### Respirator/Respirator Cartridge Information

Is there potential for a respirator to be used during fieldwork? Yes

If dust concentrations detected in the breathing zone of field personnel exceed the action levels indicated above, the procedures will include dual-cartridge half face or full-face air purifying respirators equipped with North<sup>TM</sup> combination organic vapor/HEPA cartridges. If dust concentrations decrease to below the action levels the level of personal protective equipment will be downgraded to Level D protection.

<b>Respirator Manufacturer #1</b>	<b>North</b>
Respirator Cartridge Selected for Use	HEPA/organic vapor
Respirator Cartridge Change Schedule	Every 4 hours

<b>Respirator Manufacturer #2</b>	<b>MSA</b>
Respirator Cartridge Selected for Use	HEPA/organic vapor/acid gas
Respirator Cartridge Change Schedule	Every 8 hours

**Note: Project personnel are not permitted to deviate from the specified levels of protection without the prior approval**

### AREA CONTROL

Access to hazardous and potentially hazardous areas must be controlled to reduce the probability of occurrence of physical injury and chemical exposure of field personnel, visitors, and the public.

The boundaries of hazardous and potentially hazardous areas must be identified by cordons, barricades, or emergency traffic cones or posts, depending on conditions. If such areas are left unattended, signs warning of the danger and forbidding entry must be placed around the perimeter

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if the areas are accessible to the public. Entry to hazardous areas shall be limited to individuals who must work in those areas. Unofficial visitors must not be permitted to enter hazardous areas while work in those areas is in progress. Official visitors should be discouraged from entering hazardous areas, but may be allowed to enter only if they agree to abide by the provisions of this document, follow orders issued by the site safety officer, and are informed of the potential dangers that could be encountered in the areas.

### DECONTAMINATION

Field decontamination of personnel and equipment is required. Recommended decontamination procedures follow.

#### Personnel Decontamination

Soil and groundwater possibly contaminated with pesticides, herbicides, or nitrates should be removed from skin using a mild detergent and water. Hot water is more effective than cold. Liquid dishwashing detergent is more effective than hand soap.

#### Equipment Decontamination

Gloves, boots, and goggles should be cleaned as described above; however, if boots do not become clean after washing with detergent and water, wash them with a strong solution of trisodium phosphate and hot water. Sampling equipment should be disposed after collecting soil samples and the groundwater samples at each well.

**SMOKING**      Smoking and open flames are strictly prohibited at this work site.

### SITE ENTRY PROCEDURES

Site team (no.):      ☒ MFA      ☐ Client      ☐ Agency      ☐ Other

Entry briefing date: May or June 2004 (drilling activities); August 2004 (excavation and capping activities)

Location: On site

Site work team (name/responsibility):

1. Mike Staton, SLR International (project manager)
2. Scott Zorn, MFA (geologist)
3. \_\_\_\_\_

Special conditions (e.g., work schedule or limitations): None

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### EMERGENCY PROCEDURES

Acute exposure symptom(s):	First aid:
1. Eyes – slight to moderate	Flush with water for 15 minutes
2. Skin – irritation, redness, drying	Wash with soap and water
3. Respiratory – dizziness; irritation of eyes, nose, or throat; headache; nausea	Remove to fresh air
4. Ingestion	Do not induce vomiting; call a physician

### SAFETY/HEALTH EQUIPMENT CHECKOUT LIST

#### General Safety:

First aid kit_____	<input checked="" type="checkbox"/>	Eye wash station_____	<input checked="" type="checkbox"/>
Safety glasses/face shield_____	<input checked="" type="checkbox"/>	Drinking water_____	<input checked="" type="checkbox"/>
Safety shoes/gloves_____	<input checked="" type="checkbox"/>	Tyvek suits/vinyl gloves_____	<input checked="" type="checkbox"/>
Personal clothing change_____	<input checked="" type="checkbox"/>	Hearing protection_____	<input checked="" type="checkbox"/>
Wash/decontamination materials_____	<input checked="" type="checkbox"/>	Other_____	<input type="checkbox"/>

#### Specific Safety Equipment:

- ☒ **Dust Monitor** (if sustained airborne dust is present; use wetting to minimize.)
- ☒ **Respirator** (Respirator required if dust monitor shows >1 ppm in air sustained)
- ☐ Combustible gas/explosimeter
- ☒ **Oxygen indicator** (needed if workers will enter an excavation >4 feet deep)
- ☐ Dosimeter badge(s)
- ☐ Draeger/Sensidyne pump and benzene tubes
- ☒ **Duct tape, brushes, buckets, water, soap, paper towels, caution tape, and traffic cones**
- ☐ Photoionization detector
- ☒ **Fire extinguisher**

**Note:** This H&S plan has been developed for the use of MFA and SLR personnel only. MFA and SLR make this plan available for review by other personnel on a work site; however, this plan does not cover the employees of any other employer on the work site.

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### **Medical monitoring**

OSHA requires medical monitoring for personnel potentially exposed to chemical hazards in concentrations in excess of the PEL for more than 30 days per year and for personnel who must use respiratory protection for more than 30 days per year. Exponent requires medical monitoring for all employees potentially exposed to chemical hazards.

Will personnel working at this site be enrolled in a medical monitoring program? ☒ Yes ☐ No

**Supplemental signature page included?** ☒ Yes ☐ No

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**Site:** Glade Road Facility, Pasco, Washington

**Date:** January 8, 2004

**Note:** MFA and SLR personnel must understand and comply with the specific practices and guidelines described in the Site-Specific Health and Safety Plan regarding field safety and health hazards.

**Sign-off:** I have read and I understand the attached Health and Safety Plan, and agree to comply with the requirements described within.

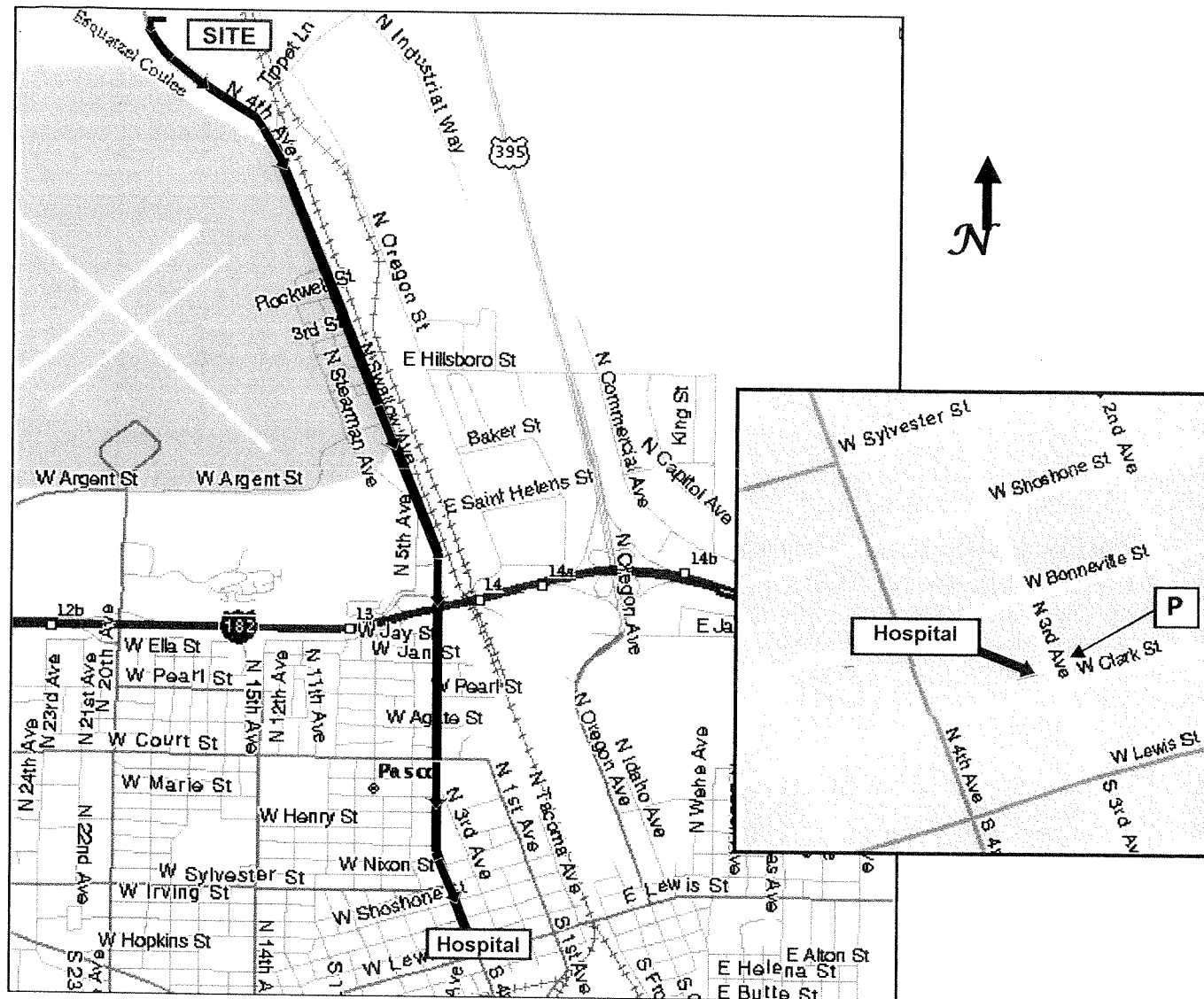
Name

Title

Date

_____	_____	_____
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_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____

**FIGURE**



**Our Lady of Lourdes Health Center**  
**520 North 4th Avenue**  
**Pasco, WA 99301**  
**(509) 547-7704**

**Starting at:**

3482 N Glade Rd North, Pasco, WA 99301

**Arriving at:**

Our Lady of Lourdes Health Center

**Distance:** 4.1 miles

**Directions:**

1. Exit site by turning left [south] on **Glade North Road**
2. **Glade North Road** becomes **North 4th Ave**
3. Hospital is on right [west] side of road.  
 General parking is on left [east] side of road.

*Note: in case of an emergency, call 9-1-1*

19401 40th Avenue W, Suite 310  
 Lynnwood, WA 98036

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**MAUL  
 FOSTER  
 ALONGI**  
 ENVIRONMENTAL & ENGINEERING CONSULTANTS

DATE 11/03  
 DWN. maa  
 APPR. \_\_\_\_\_  
 REVIS. \_\_\_\_\_  
 PROJECT NO.  
**0030.01.02**

**FIGURE 1**  
**GLADE ROAD FACILITY**  
**PASCO, WASHINGTON**  
**ROUTE TO HOSPITAL**